

WHAT IS CLAIMED IS:

1. A throughflow cylinder for drying a fiber web in a throughflow drying unit, said throughflow cylinder being comprised of fiber-reinforced plastic.
2. The throughflow cylinder of claim 1, wherein said throughflow cylinder is used for drying tissue.
3. The throughflow cylinder of claim 1, wherein said fiber-reinforced plastic includes at least one of glass fibers, aramide fibers and carbon fibers.
4. The throughflow cylinder of claim 1, wherein said fiber-reinforced plastic includes a matrix material which is heat resistant at least up to 300° C.
5. The throughflow cylinder of claim 4, wherein said matrix material is a resin.
6. The throughflow cylinder of claim 1, wherein said fiber-reinforced plastic includes at least one fiber layer selected to provide a coefficient of thermal expansion for said fiber-reinforced plastic smaller than a coefficient of thermal expansion for steel at about 300° C.
7. The throughflow cylinder of claim 6, wherein said coefficient of thermal expansion for said fiber-reinforced plastic is between approximately 0 and $9 \cdot 10^{-6} \cdot 1/\text{Kelvin}$.

8. The throughflow cylinder of claim 6, wherein said coefficient of thermal expansion for said fiber-reinforced plastic is less than $3 \cdot 10^{-6} \cdot 1/\text{Kelvin}$ in at least a peripheral direction.

9. The throughflow cylinder of claim 6, wherein said coefficient of thermal expansion for said fiber-reinforced plastic is less than $2 \cdot 10^{-6} \cdot 1/\text{Kelvin}$ in at least a peripheral direction.

10. The throughflow cylinder of claim 6, wherein said coefficient of thermal expansion for said fiber-reinforced plastic is less than $1 \cdot 10^{-6} \cdot 1/\text{Kelvin}$ in at least a peripheral direction.

11. The throughflow cylinder of claim 1, wherein said fiber-reinforced plastic includes a plurality of fibers, greater than approximately 30% of said plurality of fibers are substantially oriented in a peripheral direction.

12. The throughflow cylinder of claim 1, wherein said fiber-reinforced plastic includes a plurality of fibers, greater than approximately 50% of said plurality of fibers are substantially oriented in a peripheral direction.

13. The throughflow cylinder of claim 1, wherein said fiber-reinforced plastic includes a plurality of fibers, greater than approximately 70% of said plurality of fibers are substantially oriented in a peripheral direction.

14. The throughflow cylinder of claim 1, wherein said throughflow cylinder has a diameter of at least 2.5 m.

15. The throughflow cylinder of claim 1, wherein said throughflow cylinder has a diameter of greater than 4 m.

16. The throughflow cylinder of claim 1, wherein said throughflow cylinder has a diameter of greater than 4.5 m.

17. The throughflow cylinder of claim 1, further including a jacket comprising a fiber-reinforced plastic.

18. The throughflow cylinder of claim 17, wherein said jacket comprises a carbon fiber-reinforced plastic.

19. The throughflow cylinder of claim 1, further including a plurality of webs extending in a peripheral direction and a plurality of webs extending in an axial direction, said plurality of webs extending in a peripheral direction including a fiber-reinforced plastic having a plurality of fibers that are substantially oriented in said peripheral direction, said plurality of webs extending
5 in an axial direction including metal, said plurality of webs extending in an axial direction including cutouts for said plurality of webs extending in a peripheral direction.

20. The throughflow cylinder of claim 19, wherein said plurality of webs extending in a peripheral direction are ring-shaped.

21. The throughflow cylinder of claim 19, wherein said plurality of webs extending in a peripheral direction are adhesively bonded to said plurality of webs extending in an axial direction.

22. The throughflow cylinder of claim 19, further including a floating bearing connected to said throughflow cylinder.

23. The throughflow cylinder of claim 1, further including a plurality of webs extending in a peripheral direction and a plurality of webs extending in an axial direction, both said plurality of webs extending in a peripheral direction and said plurality of webs extending in an axial direction including a fiber-reinforced plastic, said plurality of webs extending in a peripheral direction connected to said plurality of webs extending in an axial direction in a shaped matched manner, said plurality of webs extending in a peripheral direction adhesively bonded to said plurality of webs extending in an axial direction.

24. The throughflow cylinder of claim 23, wherein said plurality of webs extending in a peripheral direction are ring-shaped.

25. The throughflow cylinder of claim 23, wherein said plurality of webs extending in a peripheral direction include a plurality of fibers oriented in said peripheral direction, said plurality of webs extending in an axial direction include a plurality of fibers oriented in said axial direction.

26. The throughflow cylinder of claim 23, further including a jacket having a plurality of four-cornered passage openings.

27. The throughflow cylinder of claim 26, wherein said plurality of four-cornered passage openings are a plurality of square passage openings.

28. The throughflow cylinder of claim 26, wherein said plurality of four-cornered passage openings are a plurality of rectangular passage openings.

29. The throughflow cylinder of claim 26, wherein said plurality of four-cornered passage openings are formed between said plurality of webs extending in a peripheral direction and said plurality of webs extending in an axial direction.

30. The throughflow cylinder of claim 26, wherein an open area of said plurality of four-cornered passage openings is between approximately 95% and 98%.

31. The throughflow cylinder of claim 26, wherein at least one of said plurality of four-cornered passage openings measures approximately 60 mm by 120 mm.

32. The throughflow cylinder of claim 23, wherein said plurality of webs extending in an axial direction are higher than said plurality of webs extending in a peripheral direction.

33. The throughflow cylinder of claim 23, wherein both said plurality of webs extending in a peripheral direction and said plurality of webs extending in an axial direction end in a circumferential plane.

34. The throughflow cylinder of claim 23, wherein said plurality of webs extending in an axial direction project radially outwardly respective to said plurality of webs extending in a peripheral direction.

35. The throughflow cylinder of claim 1, further including a screen stocking covering said throughflow cylinder, said screen stocking having an open area less than 96%.

36. The throughflow cylinder of claim 35, wherein said screen stocking includes a material heat resistant to at least 250° C.

37. The throughflow cylinder of claim 36, wherein said material is a metal.

38. The throughflow cylinder of claim 1, further including a jacket having a plurality of layers of fiber-reinforced plastic, said jacket being provided with a plurality of passage openings.

39. The throughflow cylinder of claim 38, wherein said jacket is produced with a winding process.

40. The throughflow cylinder of claim 38, wherein said plurality of passage openings are at least one of round, square and rectangular.

41. The throughflow cylinder of claim 1, wherein said fiber-reinforced plastic includes a plurality of fibers and a plastic, said plurality of fibers have a smaller coefficient of thermal expansion than said plastic in at least in a direction.

42. The throughflow cylinder of claim 1, wherein said throughflow cylinder includes a plurality of segments.

43. The throughflow cylinder of claim 42, wherein said plurality of segments are at least one of adhesively bonded and screwed together.

44. The throughflow cylinder of claim 1, wherein said throughflow cylinder includes a plurality of individual sections.

45. The throughflow cylinder of claim 44, wherein said plurality of individual sections are a plurality of short cylindrical sections.

46. The throughflow cylinder of claim 44, wherein said plurality of individual sections are at least one of adhesively bonded together and screwed together.

47. The throughflow cylinder of claim 1, further including a plurality of webs extending in a peripheral direction and a plurality of webs extending in an axial direction, both said plurality of webs extending in a peripheral direction and said plurality of webs extending in an axial direction including a plurality of apertures.

48. The throughflow cylinder of claim 47, wherein said plurality of webs extending in an axial direction include a height, said height is greater than approximately 100 mm.

49. The throughflow cylinder of claim 48, wherein said height is greater than approximately 200 mm.

50. The throughflow cylinder of claim 47, further including a plurality of connection passages between adjacent said plurality of apertures.

51. The throughflow cylinder of claim 1, further including a jacket having a radial thickness of at least 100 mm.

52. The throughflow cylinder of claim 51, wherein said radial thickness is at least 200 mm.